

**Notice of Allowability**

Application No.

09/845,111

Examiner

Kevin C Kianni

Applicant(s)

WILLIAMS ET AL.

Art Unit

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/18/2003.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ The drawings filed on 02 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of \_\_\_\_\_  
Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Karasek and Ms. Ferret on February 19, 2004, in order to correct the erroneous preamble dependency of method claim 32 to the system of claim 1 as well as inserting pertaining limitations in order to make the entire case allowable, as follows:

In claim 32:

In page 10, line 1, erase [In a system according to claim 1]

In page 10, line 3, after the words 'optical signal to' erase [an] and replace it with inserting a first polarization maintaining

In page 10, line 4, insert first polarization maintaining between the beginning word 'the' and the word 'optical'

In page 10, line 4, after the words 'first optical signal' erase [the] and replace it with a

In page 10, line 5, after the words 'second optical signal in' erase [the] and replace it with a

In page 10, line 5, insert the first optical path and the second optical path forming a Mach Zehnder Modulator after the words 'second optical path'

In page 10, line 6, after the words 'signal with' erase [the] and replace it with a

In page 10, line 7, insert with piezo-electric transducer disposed in the second optical path after the words 'second optical path

In page 10, line 8, before ',' insert in a second polarization maintaining optical coupler; amplifying the combined signals with an amplifier disposed between the phase modulator and the second polarization maintaining optical coupler;

In page 10, line 9, before 'combined' insert amplified .

### ***Reason for Allowance***

2. Claims 1-34 are allowed for the following reasons:

The instant application is deemed to be directed to a nonobvious improvement over the invention patented in Pat. No. US 5,675,648. The improvement comprises as follows:

Claim 1 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious an amplifier disposed between the phase modulator and the second PM coupler for amplifying a signal from the phase modulator in combination with the rest of the limitations of the base claim. Claims 2-10, 22-23, 26 and 27 depend to claim 1 and therefore they are also allowed.

Claim 11 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious amplifying the phase modulated signal in the first optical path; combining the amplified signal in said first optical path with the signal in the second optical path in combination with the rest of the limitations of the base claim.

Claims 12-19, 24, and 29-30 depend to claim 1 and therefore they are also allowed.

Claim 20 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious an amplifier disposed in the first optical path between the phase modulator and the second PM coupler for amplifying a phase modulated signal in the first optical path in combination with the rest of the limitations of the base claim.

Claims 21 and 25 depend to claim 20 and therefore they are also allowed.

Claim 28 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious a second phase modulator disposed in the second optical path in combination with the rest of the limitations of the base claim.

Claim 31 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious providing an optical signal to an optical coupler, the optical signal; having an optical power level greater than the threshold breakdown level of the fiber optical modulator in combination with the rest of the limitations of the base claim.

Claim 32 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious amplifying the combined signals with an amplifier disposed between the phase modulator and the second polarization maintaining optical coupler in combination with the rest of the limitations of the base claim. Claims 33-34 depend to claim 32 and therefore they are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Contact Information**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231


**or faxed to:**

(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.



K. Cyrus Kianni  
Patent Examiner  
Group Art Unit 2877

Frank Font  
Supervisory Patent Examiner  
Group Art Unit 2877

February 22, 2004